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| 10/811,374 | 03/26/2004 | Robert H. Bush | EH-11234 (04-224) | 2083 |

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| EXAMINER |
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RODRIGUEZ, WILLIAM H

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| ART UNIT | PAPER NUMBER |
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3746

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/811,374

Applicant(s)

BUSH ET AL. *CM*

Examiner

William H. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/26/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

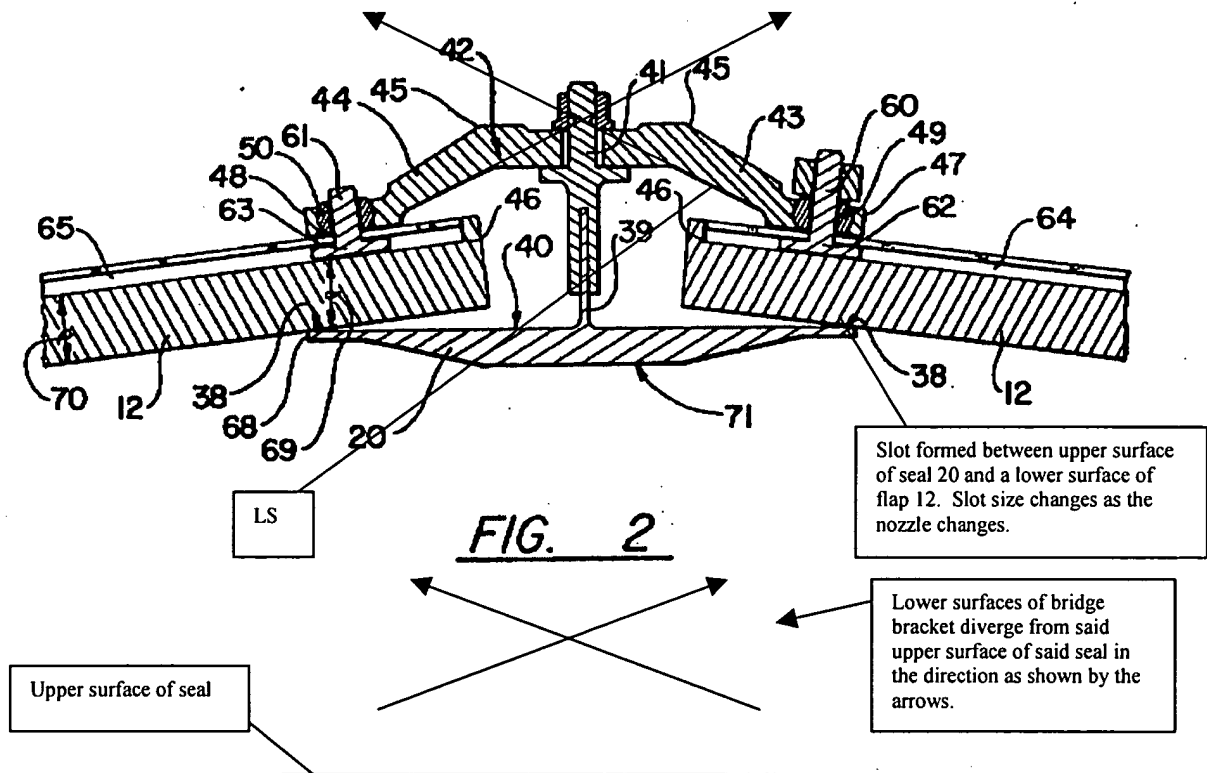
DETAILED ACTION***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by **Barcza** (U.S. 5,285,637).



With respect to claim 1, **Barcza** teaches a nozzle for an engine comprising: a plurality of spaced apart divergent flaps 12; means 34 for moving said divergent flaps 12; a bridge member

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42 positioned intermediate adjacent ones of said divergent flaps 12; each said bridge member 42 including a bridge bracket (43, 44) and a sealing element 20 joined to said bridge bracket (43, 44); said sealing element 20 having an upper surface 40; and said bridge bracket having a lower surface LS which diverges from said upper surface of said sealing element 20. See particularly **Figure 2** of Barcza above.

With respect to claim 2, **Barcza** teaches that the divergent flaps 12 move relative to said lower surface LS so that in an overexpanded condition of said nozzle having a first nozzle throat area, a first slot is created between said upper surface of said seal member and lower surfaces of said flaps. See particularly **Figure 2**, column 4 lines 44-55 of Barcza.

With respect to claim 3, **Barcza** teaches that the divergent flaps 12 move relative to said lower surfaces so that in an overexpanded condition of said nozzle having a second nozzle throat area smaller than said first nozzle throat area, a second slot smaller than said first slot is created between said upper surface of said seal member and said lower surfaces of said flaps. See particularly **Figure 2**, column 4 lines 44-55 of Barcza.

With respect to claim 4, **Barcza** teaches that the nozzle further comprises means (39, 41) for joining said sealing element 20 to said bridge bracket (43, 44). See particularly **Figure 2** of Barcza above.

With respect to claim 5, **Barcza** teaches that the bridge bracket (43, 44) is shaped to allow variable slot size depending on nozzle throat jet area. See particularly **Figure 2**, column 4 lines 21-24 of Barcza.

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With respect to claim 6, **Barcza** teaches that said divergent flaps 12 define a nozzle surface area and said flaps 12 being spaced apart by gaps* which comprise from 3.0% to 30% of said nozzle throat surface area. See particularly **Figure 2** of Barcza above.

*The gap between adjacent flaps appears to be within the claimed range of 3.0% to 30%.

With respect to claim 7, **Barcza** teaches that said divergent flaps 12 are spaced apart by gaps* which comprise from 8.0% to 12.0% of said nozzle throat surface area. See particularly **Figure 2** of Barcza above.

*The gap between adjacent flaps appears to be within the claimed range of 8.0% to 12.0%.

With respect to claim 8, **Barcza** teaches an ejector nozzle bridge member 42 comprising: a bridge bracket (43, 44); a sealing element 20 joined to said bridge bracket; said sealing element having an upper surface 40; and said bridge bracket having a lower surface LS which diverges from said upper surface of said sealing element. See particularly **Figure 2** of Barcza above.

With respect to claim 9, **Barcza** teaches that the sealing element 20 has a central portion and end portions an angle to said central portion. See particularly **Figure 2** of Barcza above.

With respect to claim 10, **Barcza** teaches that the ejector nozzle bridge member further comprises: a backbone support (39, 41) attached to said sealing element 20; said bridge bracket 42 fitting over said backbone support; and means for securing said bridge bracket on said backbone support. See particularly **Figure 2** of Barcza above.

With respect to claim 11, **Barcza** teaches that the bridge bracket (43, 44) is shaped to allow variable slot size depending on nozzle throat jet area. See particularly **Figure 2**, column 4 lines 21-24 of Barcza.

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With respect to claim 12-22, **Barcza** teaches a nozzle for an engine comprising: a plurality of spaced apart divergent flaps 12; means 34 for moving said divergent flaps 12; a bridge member 42 positioned intermediate adjacent ones of said divergent flaps 12; each said bridge member 42 including a bridge bracket (43, 44) and a sealing element 20 joined to said bridge bracket (43, 44); said sealing element 20 having an upper surface 40; and said bridge bracket having a lower surface LS which diverges from said upper surface of said sealing element 20. Since **Barcza** has the same structure as claimed, it is inherent that **Barcza's** ejector nozzle would be able to perform the recited method steps of claims 12-22. See particularly **Figure 2**, column 4 lines 21-24; and column 4 lines 44-55 of **Barcza**.

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3. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by **Ausdenmoore et al.** (U.S. 5,484,105).

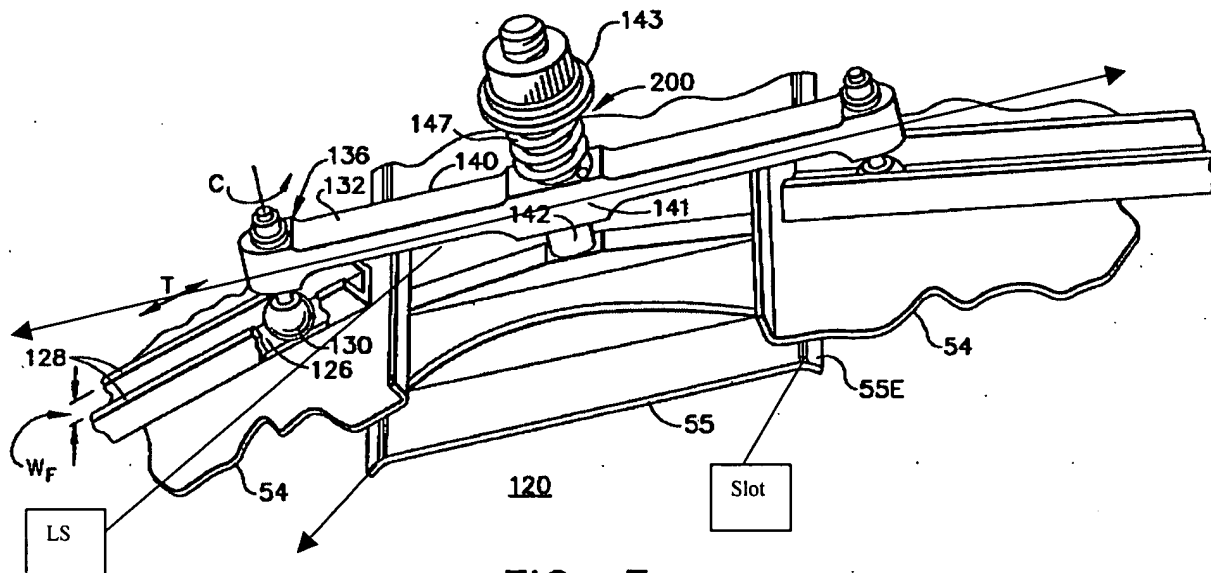


FIG. 3

With respect to claim 1, **Ausdenmoore** teaches a nozzle for an engine comprising: a plurality of spaced apart divergent flaps 54; means 90 for moving said divergent flaps 54; a bridge member 141 positioned intermediate adjacent ones of said divergent flaps 54; each said bridge member 141 including a bridge bracket 132 and a sealing element 55 joined to said bridge bracket 132; said sealing element 55 having an upper surface 55E which diverges from a lower surface LS of said bridge bracket. See particularly **Figure 3** of Ausdenmoore above.

*a sealing element having an upper surface which diverges from a lower surface of a bridge bracket is interpreted to mean the same or be equivalent to a bridge bracket having a lower surface which diverges from an upper surface of a sealing element.

With respect to claim 2, **Ausdenmoore** teaches that the divergent flaps 54 move relative to said lower surface LS so that in an overexpanded condition of said nozzle having a first nozzle

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throat area, a first slot is created between said upper surface of said seal member and lower surfaces of said flaps. See particularly **Figure 3** of Ausdenmoore above..

With respect to claim 3, **Ausdenmoore** teaches that the divergent flaps 54 move relative to said lower surfaces so that in an overexpanded condition of said nozzle having a second nozzle throat area smaller than said first nozzle throat area, a second slot smaller than said first slot is created between said upper surface of said seal member and said lower surfaces of said flaps. See particularly **Figure 3** of Ausdenmoore above..

With respect to claim 4, **Ausdenmoore** teaches that the nozzle further comprises means 142 for joining said sealing element 55 to said bridge bracket 132. See particularly **Figure 3** of Ausdenmoore above.

With respect to claim 5, **Ausdenmoore** teaches that the bridge bracket 132 is shaped to allow variable slot size depending on nozzle throat jet area. See particularly **Figure 3** of Ausdenmoore above.

With respect to claim 6, **Ausdenmoore** teaches that said divergent flaps 54 define a nozzle surface area and said flaps being spaced apart by gaps* which comprise from 3.0% to 30% of said nozzle throat surface area. See particularly **Figure 3** of Ausdenmoore above.

*The gap between adjacent flaps appears to be within the claimed range of 3.0% to 30%.

With respect to claim 7, **Ausdenmoore** teaches that said divergent flaps 54 are spaced apart by gaps* which comprise from 8.0% to 12.0% of said nozzle throat surface area. See particularly **Figure 3** of Ausdenmoore above.

*The gap between adjacent flaps appears to be within the claimed range of 8.0% to 12.0%.

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With respect to claim 8, **Ausdenmoore** teaches an ejector nozzle bridge member 141 comprising: a bridge bracket 132 and a sealing element 55 joined to said bridge bracket 132; said sealing element 55 having an upper surface 55E which diverges from a lower surface LS of said bridge bracket. See particularly **Figure 3** of Ausdenmoore above.

*a sealing element having an upper surface which diverges from a lower surface of a bridge bracket is interpreted to mean the same or be equivalent to a bridge bracket having a lower surface which diverges from an upper surface of a sealing element.

With respect to claim 9, **Ausdenmoore** teaches that the sealing element 55 has a central portion and end portions an angle to said central portion. See particularly **Figure 3** of Ausdenmoore above.

With respect to claim 10, **Ausdenmoore** teaches that the ejector nozzle bridge member further comprises: a backbone support 142 attached to said sealing element 55; said bridge bracket 132 fitting over said backbone support; and means for securing said bridge bracket on said backbone support. See particularly **Figure 3** of Ausdenmoore above.

With respect to claim 11, **Ausdenmoore** teaches that the bridge bracket 132 is shaped to allow variable slot size depending on nozzle throat jet area. See particularly **Figure 3** of Ausdenmoore above.

With respect to claim 12-22, **Ausdenmoore** teaches a nozzle for an engine comprising: a plurality of spaced apart divergent flaps 54; means 90 for moving said divergent flaps 54; a bridge member 141 positioned intermediate adjacent ones of said divergent flaps 54; each said bridge member 141 including a bridge bracket 132 and a sealing element 55 joined to said bridge bracket 132; said sealing element 55 having an upper surface 55E which diverges from a lower

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surface LS of said bridge bracket. Since **Ausdenmoore** has the same structure as claimed, it is inherent that **Ausdenmoore**'s ejector nozzle would be able to perform the recited method steps of claims 12-22. See particularly **Figure 3** of Ausdenmoore above.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Using the same analysis as **Barcza** (see above), the following references do anticipate claims 1-22 under 35 U.S.C. 102 (b).

US 5,839,663 **Figure 3**

US 4,878,618 **Figure 4**

US 5,232,158 **Figure 2**

Using the same analysis as **Ausdenmoore** (see above), the following reference(s) do anticipate claims 1-22 under 35 U.S.C. 102 (b).

US 5,269,467 **Figure 2**


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Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodriguez whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William H. Rodriguez
Examiner
Art Unit 3746